

Applicant: H. Maeda
U.S.S.N.: 09/506,210
Response to Office Action
Page 3 of 14

Amendments to the Claims

This listing of claims will replace all prior versions, and listing, of claims in the application.

Listing of Claims:

1. (Currently Amended) An image-processing apparatus comprising:

a storing section having a storing area for storing image data that has been compressed and divided; and

~~an image-processing control section which combines and decompresses stored image data in the storing section, and then carries out an image processing on the image data, and which again stores the processed image data that has been compressed and divided in the storing section, the image-processing control section having a judgment section which makes a judgment as to whether or not an empty storing area in the storing section is sufficient in storing the processed image data,~~

~~an image-processing control section that is configured and arranged so as to compresses and divide the image data and to store the compressed and divided image data in the storing section (“stored image data”), so as to combine and decompress the stored image data, so as to perform image processing on the combined and decompressed stored image data, so as to compress and divide the processed image data and to store the compressed and divided processed image data in the storing section;~~

~~wherein the image-processing control section includes a judgment section configured and arranged so as to make a judgment as to whether or not an empty storing area in the storing section is sufficient for storing the compressed and divided processed image data; and~~

Applicant: H. Maeda
U.S.S.N.: 09/506,210
Response to Office Action
Page 4 of 14

wherein upon a judgment by the judgment section that the empty storing area is insufficient to store the compressed and divided processed image data, the image-processing control section controls the storage of the compressed and divided processed image data so as to allow the compressed and divided processed image data to be stored in storing areas of the storing section including the storing areas in which the stored image data was originally stored.

2. (Currently Amended) The image-processing apparatus as defined in claim 1, wherein:

the storing area is constituted by a plurality of blocks, each storing one divided portion of any image data being stored in the storing section, and
when the judgment by the judgment section shows that the empty storing area is sufficient, the image-processing control section controls the storage of the compressed and divided processed image data so as to preferentially use an empty storing area consisting of continuous blocks so as to store the compressed and divided processed image data.

3. (Currently Amended) An image-processing apparatus comprising:

a storing section having a storing area for storing image data that has been compressed and divided; and

an image-processing control section that is configured and arranged so as to preprocess the image data, so as to compresses and divide the pre-processed image data and to store the compressed and divided image data in the storing section (“stored image data”), so as to combine

Applicant: H. Maeda
U.S.S.N.: 09/506,210
Response to Office Action
Page 5 of 14

and decompress the stored image data, so as to perform image processing on the combined and decompressed stored image data, so as to compress and divide the processed image data and to store the compressed and divided processed image data in the storing section, wherein the image-processing control section includes a judgment section configured and arrange so as to make a judgment as to whether or not an empty storing area in the storing section is sufficient for storing the compressed and divided processed image data,

— an image-processing control section which carries out a pre-processing on image data, compresses and divides the image data, and then stores the resulting image data in the storing section as stored image data, which combines and decompresses the stored image data, and then carries out an image processing on the image data, and which again stores the processed image data that has been compressed and divided in the storing section;

— wherein the image processing including includes a combining process for main image data and sub image data of the image data, and wherein the pre-processing including includes a process for adding to the main image data a blank section to which the sub image data is inserted.

4. (Currently Amended) An image-processing apparatus comprising:

a storing section having a storing area for storing image data that has been compressed and divided; and

an image-processing control section being configured and arranged so as to combine and decompress which combines and decompresses stored image data (stored image data) being stored in the storing section, so as to carry and then carries out an image processing on the

Applicant: H. Maeda
U.S.S.N.: 09/506,210
Response to Office Action
Page 6 of 14

combined and decompressed image data, so as to compress and divide the processed image data
and which again stores to store the combined and divided processed image data that has been
compressed and divided in the storing section,

wherein the image-processing control section having includes a judgment section which
makes a judgment as to whether or not an empty storing area in the storing section is sufficient
for in-storing the compressed and divided processed image data, wherein based upon the
judgment by the judgment section, the image-processing control section controls the storage of
the compressed and divided processed image data so as to allow the compressed and divided
processed image data to be stored in storing areas in which the stored image data was originally
stored.

5. (Currently Amended) The image-processing apparatus as defined in claim 4, wherein,
when the judgment by the judgment section shows that the empty storing area is
insufficient to store the compressed and divided processed image data, the image-processing
control section controls the storage of the compressed and divided processed image data so as to
allow the compressed and divided processed image data to be stored in the storing areas in which
the stored image data was originally stored.

6. (Currently Amended) The image-processing apparatus as defined in claim 4, wherein:
the storing area is constituted by a plurality of blocks, each storing one divided portion of
any image data being stored in the storing section, and

when the judgment by the judgment section shows that the empty storing area is sufficient, the image-processing control section controls the storage of the compressed and divided processed image data so as to preferentially use an empty storing area consisting of continuous blocks so as to store the compressed and divided processed image data.

7. (Currently Amended) An image-processing apparatus, which comprises an image-processing means for carrying out an image processing on image data, which image-processing apparatus compresses and divides the processed image data so as to be stored in a storing means in a divided manner, and which combines the group of the stored, divided and compressed processed image data, thus stored, and decompresses and restores the stored, divided and compressed processed image data them so as to be outputted, said image-processing apparatus comprising:

a storing area managing means for managing a storing area of the storing means, the storing area managing means being designed so that, when, after ~~a~~ the group of the divided and compressed unprocessed image data, which were divided and temporarily stored in the storing means, have been restored and subjected to the image processing, the resulting processed image data is again compressed and divided so as to be stored in the storing means;

a judgment means for making a judgment as to whether or not one or more empty storing areas in the storing means are sufficient for storing the group of divided and compressed processed image data after the image processing; and

wherein, when the judgment means shows that the empty storing areas are insufficient for storing the group of divided and compressed processed image data, the storing area managing means is designed so as to utilize a storing area used by the group of the divided and compressed unprocessed image data prior to the image processing so as to store the group of the divided and compressed processed image data after the image processing.

8. (Canceled)

9. (Currently Amended) The image-processing apparatus as defined in claim 7, wherein, upon showing that the one or more empty storing areas are sufficient for storing the group of the divided and compressed processed image data after the image processing in the empty storing areas, the storing area managing means preferentially carries out a storing process in a portion having continuous sections each corresponding to one divisional portion of the compressed processed image data.

10. (Currently Amended) An image-processing apparatus, which comprises an image-processing means for carrying out an image processing on stored image data, which image-processing apparatus compresses and divides the processed image data so as to be stored in a storing means in a divided manner, and which combines the group of the stored, divided and compressed processed image data, thus stored, and decompresses and restores the stored, divided

Applicant: H. Maeda
U.S.S.N.: 09/506,210
Response to Office Action
Page 9 of 14

and compressed processed image data them so as to be outputted, said image processing apparatus comprising:

a pre-processing means which, upon having an instruction for an image-processing involving an image combining process including a center binding edition and an edition for collecting images corresponding to a plurality of pages into one page, carries out a pre-processing for allowing preprocess image data of an image forming a subject for the combining process to preliminarily possess a blank section, the blank section corresponding to a location to which the image to be combined is to be inserted, and following such preprocessing the image processing apparatus compressing, dividing and storing the preprocessed data in the storing means as the stored image data. prior to the inputted image data is compressed, divided and stored in the storing means.

11. (Currently Amended) The image-processing apparatus as defined in claim 2, wherein the judgment section:

identifies contiguous blocks of the empty storing area,
determines if the contiguous blocks are sufficient for storing the compressed and divided processed image data, and
upon a determination by the judgment section that the contiguous blocks are sufficient to store the compressed and divided processed image data, the image-processing control section controls the storage of the compressed and divided processed image data so as to preferentially allow the compressed and divided processed image data to be stored in the contiguous blocks.

12. (Currently Amended) The image-processing apparatus as defined in claim 6,
wherein the judgment section:

identifies contiguous blocks of the empty storing area,

determines if the contiguous blocks are sufficient for storing the compressed and divided
processed image data, and

upon a determination by the judgment section that the contiguous blocks are sufficient to
store the compressed and divided processed image data, the image-processing control section
controls the storage of the compressed and divided processed image data so as to preferentially
allow the compressed and divided processed image data to be stored in the contiguous blocks.

13. (Previously Presented) The image-processing apparatus as defined in claim 1,
wherein upon a judgment by the judgment section that the empty storing area is sufficient to store
the compressed and divided processed image data, the image-processing control section controls
the storage of the compressed and divided processed image data so as the compressed and
divided processed image data is stored in the empty storing area.

14. (Currently Amended) The image-processing apparatus as defined in claim 5,
wherein upon a judgment by the judgment section that the empty storing area is sufficient to store
the compressed and divided processed image data, the image-processing control section controls

Applicant: H. Maeda
U.S.S.N.: 09/506,210
Response to Office Action
Page 11 of 14

the storage of the compressed and divided processed image data so as the compressed and divided processed image data is stored in the empty storing area.

15. (Currently Amended) The image processing apparatus as defined in claim 1, wherein the compressed and divided processed image data is divided into predetermined block units and wherein the image-processing control section controls the storage of the compressed and divided processed image data so that the compressed and divided processed image data is transferred block unit by block unit to the storing section.

16. (Currently Amended) The image processing apparatus as defined in claim 5, wherein the compressed and divided processed image data is divided into predetermined block units and wherein the image-processing control section controls the storage of the compressed and divided processed image data so that the compressed and divided processed image data is transferred block unit by block unit to the storing section.